



# Deer Associates eNews

News from the Deer Research Program at the Caesar Kleberg Wildlife Research Institute

February 2009

## Protein Feeding Deer: A LONG TERM Project that Requires FEEDING DILIGENCE

By *Stuart W. Stedman*

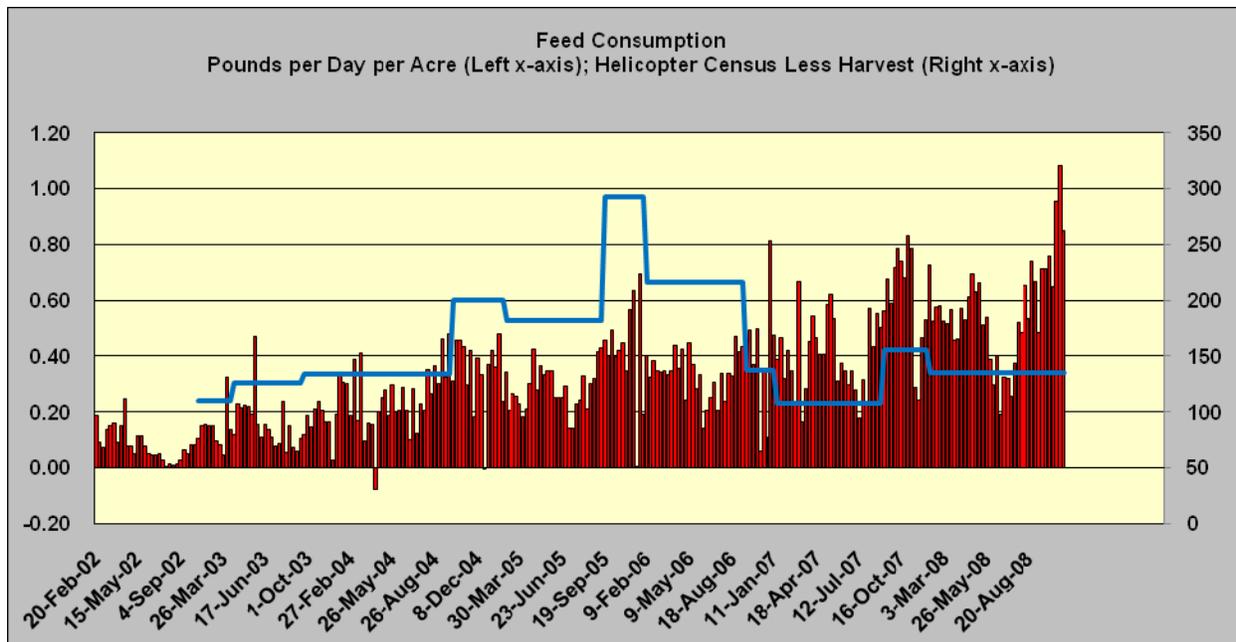
Many deer managers “feed protein.” What they mean is that they make available to their deer herd a pelleted protein-energy-minerals-ration through some type of feed delivery system. Many spend a fair amount of money doing that. But are they getting any bang for their buck (pun, regrettably, intended)?

The two basic measures of success of a protein feeding program are (1) increased fawn survival and (2) increased antler sizes.

I can tell you from experience that protein feeding increases BOTH fawn survival AND antler sizes. I can also tell you that the time required to reach the maximum potential of protein feeding is very long—seven and a half years at a minimum. And if you do not feed diligently, the time required is even longer.

### The Time Required: 2 to 3 Years Before Any Results are Seen

Our experience at the Faith Ranch indicates that it takes about 2 to 3 years before protein feed becomes a significant part of a deer herd's diet. The following chart tracks protein feed consumption on one of the Faith Ranch pastures. The chart measures consumption in Pounds of Feed Consumed per Day per Acre. This measure, since it is a per-acre measurement, allows comparison of consumption across pastures of different sizes. We have found at the Faith Ranch that protein feed has started to become a significant part of a deer herd's diet when a herd starts to consistently consume 0.20 Pounds per Day per Acre. We have also found that this level of consumption takes about 2 years to 3 years to reach.



The red bars show the Pounds per Day per Acre of feed the deer in this pasture have consumed (the bars represent one week of feed consumption). We started feeding this pasture in February 2002. But note that the Pounds per Day per Acre did not consistently rise above 0.20 until August 2004—about 2 ½ years after feeding began. We have seen this feed consumption pattern in virtually all of the Faith Ranch pastures on feed.

Why does it take 2 ½ years for a deer herd to consume more than 0.20 Pounds per Day per Acre in a pasture? Simply put, it is training and habit. Once a deer is in the habit of visiting protein feeders, it will train others in its bachelor or family groups. This training simply takes time.

The blue line (scale on the right) tracks the deer census (less annual harvest) in this pasture. The deer numbers did not significantly increase until the Fall 2004 survey. The deer numbers increased because enough deer in the herd were on feed to produce a measurable increase in fawn survival. An increase in fawn survival—a more measurable indicator of feeding success than antler size—is the first and most obvious effect of high feed consumption. Again, once a deer herd starts consuming about 0.20 Pounds per Day per Acre of feed (after 2 ½ years or so), fawn survival should start to increase. Antler size should also increase at this time.

To be precise, I have seen antlers of individual bucks respond to feed soon after the feeding program starts. Some bucks take to the feed early and it shows in their antlers. But an entire herd requires 2 to 3 years to get fully on the feed. You see this effect first on feed consumption (0.20 Pounds per Day per Acre) and then on increased fawn survival. Buck antler response varies depending on the individual buck. Still, overall antler quality in the herd should track increasing fawn survival as the herd consumes more feed.

### **After the First 2 ½ Years, Wait Another 5 Years to See the Real Impact of Feed**

Once the deer start to consume feed in earnest—again, 2 ½ years or from the start of feeding—there is another long wait. The fawns that have been on feed all of their lives take another 5 years or so to reach maturity. Once that magic 7 ½ years is reached, the results should be astonishing: (1) the number of 5 year old bucks is much higher than normal (higher fawn survival) and (2) antlers of bucks on feed all of their lives will on average be much larger than unfed bucks (and even larger than bucks who have consumed feed for only a portion of their lives).

At the end of 7 ½ years, then, protein feeding produces more bucks and better bucks. The truly exciting part is that this phenomenon happens year after year as these strong age classes reach maturity. That is the promise—and the demonstrated reality—of a successful protein feeding program.

### **Feeding Diligence: An Often Overlooked Ingredient of Success**

Although many managers feed protein, I am not sure how many managers feed diligently—i.e. make the effective delivery of protein pellets THE mission critical activity on a ranch or hunting lease. I can tell you from experience that haphazard and inconsistent feeding will delay the 2 ½ year ramp-up period significantly. Lack of diligence will also diminish the long term effectiveness of a feeding program even after a deer herd gets fully on feed.

I often hear heated debates around campfires about issues such as the best type of protein feeder, the best type of feed, and whether to put a dewormer in the feed once or twice per year. I think these issues are peripheral to the success of a feeding program—at least when compared with simple feeding diligence and great attention to feed delivery details.

*What do I mean by feeding diligence? The following is a rough guide:*

- The guy actually putting the protein in the feeder and measuring its consumption is one of the most important persons on the ranch. Is he recognized and compensated as such? He should NOT be the low man on the totem pole (or at least he should not be treated like that).

- What kind of records of protein consumption do you keep? I get 8 spreadsheets (one for each fed pasture) emailed to me each week that track protein feed consumption—measured in 50 pound increments. Each spreadsheet has 4 charts that look at the data in various ways. If something looks funny, I ask immediately. But perhaps the most important benefit of those spreadsheets is that I know feeding was done that week.
- Do you and your ranch personnel talk about the feeding program on a regular basis and in specific detail? I created a monthly feed meeting agenda that ranch personnel have to meet about each month. Included in the 3 page agenda are discussion items such as (a) pellet quality, (b) clogged feeders, (c) impassable roads, (d) non-target species consumption of feed, (e) feeders that ran out of feed, just to name a few of the items discussed on the agenda. Ranch personnel take detailed notes during these monthly meetings and email them to me for review.
- Do you ever let a feeder go empty? That's death to a feeding program, in my opinion. A deer in the habit of hitting 2 or 3 feeders per night will get out of the habit of visiting an empty feeder. That habit will take several days to instill again in that deer. (Note: We do shut off feeders for a month during hunting season so we can effectively hunt our deer. I am talking about empty feeders during the eleven months of feeding protein.)
- Do you have water at most feeders? I believe water is important, if not critical. We generally see higher feed consumption at feeders near water than at feeders far from water. We make the addition of water troughs at feeders a regular part of our annual capital budget process.
- Do you have access to your feeders after rains? If not, fix the roads and haul some caliche if necessary. Sure the rain is helpful, but consistent feeding is even more important than rain to the long term success of a feeding program.

## Two Final Strategic Issues

Although diligence in feeding is a nuts and bolts activity that requires management attention and focus, I would be remiss in a discussion of feeding if I did not mention two broad strategic issues that a manager must address when feeding protein. Both issues probably require research and investigation, but I would urge you to err on the side of a more intensive feeding regime until research suggests otherwise.

- What is your feeder density? I would say that anyone with a feeder density of less than 1 feeder per 200 acres is wasting his time. Fewer feeders than that make it impossible for deer to incorporate feeding into their daily or nightly routine. We have some pastures with 1 feeder per 100 acres (and those pastures tend to have the biggest deer). I would much rather feed a smaller area at a higher feeder density than spread the same number of feeders out over too large of an area. I hope that the Kleberg Institute deer scientists will be able to research the question of feeder density versus feed consumption.
- Do you feed year round? We feed roughly 11 months out of the year; we stop feeding only to hunt deer. I would feed more but the deer on feed become so nocturnal that they are impossible to hunt. I believe year round feeding is very important in maximizing the impact of protein feeding, but this is an area that is ripe for research. Another way to ask the research question is "are there periods during the year in which feeding is not critical to either antler development or fawn survival?"

## Summary

Perhaps some of my feeding diligence is overkill, but I do not think so. Think about the timeline under diligent feeding: 2 ½ years before seeing any results is a long time; 7 ½ years is almost a decade. Without diligent feeding, the results get pushed farther and farther into the future. Most people who do not feed diligently either quit feeding long before the potential is achieved or they muddle through with haphazard feeding and never experience its true benefits. Patience and feeding diligence are the two critical ingredients in a successful protein feeding program.

*About the Author:* Stuart W. Stedman is a businessman from Houston whose family owns the Faith Ranch in Dimmit, Webb, and Maverick Counties. He has been a supporter of the Deer Research Program of the Caesar Kleberg Wildlife Research Institute since the mid 1980's and has been a member of the Institute's Advisory Board since 1989.